DOCUMENT RESUME

ED 380 167 JC 950 153

TITLE	A Profile of Minnesota Technical College Students.
INSTITUTION	Human Capital Research Corp., Chicago, IL.
SPONS AGENCY	Minnesota State Board of Technical Colleges, St. Paul.
PUB DATE	1 Feb 95
NOTE	99p.; Findings from the "Economic Baseline Study" conducted by Human Capital Research Corporation.
PUB TYPE	Statistical Data (110) -- Reports - Research/Technical (143)
EDRS PRICE	MF01/PC04 Plus Postage.
DESCRIPTORS	*Academic Achievement; College Outcomes Assessment; Financial Support; *Outcomes of Education; *Student Characteristics; *Student Educational Objectives; Student Financial Aid; Technical Institutes; Two Year Colleges; *Two Year College Students
IDENTIFIERS	*Minnesota

ABSTRACT

A 3-year longitudinal survey of more than 8,000 Minnesota technical college students drawn from 34 campuses across the state was commissioned by the chancellor of the Minnesota State Board of Technical Colleges. The survey, begun in July 1992 and conducted in multiple waves, achieved response rates of 65% to 70% from younger students and their parents and from financially independent students. Findings from the first year's student surveys included the following: (1) the technical college student population diversified substantially during the past 5 years, although the socio-economic profile of technical college students differed markedly from the traditional baccalaureate student profile; (2) the technical college student population was divided evenly between dependent students still financially supported by their parents and independent students; (3) technical college students had a wide range of employment experiences, from students with no labor force experience to students with long careers with a single employer; (4) of students with labor force experience, about half were no longer working in their primary occupations; (5) nearly all technical college students shared the same educational goal of earning a formal award, and the majority expected to accomplish this goal within 2 years; (6) more than 85% attended technical college to improve their employment situation, with 90% of those with prior work experience planning to change occupations or employers; (7) establishing an educational goal was the single most important determinant of student success; (8) achieving student objectives depended critically on both institutional and non-institutional support; (9) a cross-section of students representing both high achievers and students at risk identified faculty and staff support as being critical in achieving their goals; (10) approximately 62% of all exiting independent students and 58% of all exiting dependent students completed their educational goal, irrespective of students' social or demographic characteristics; and (11) 68% of all exiting students anticipated returning to a technical college in the future. (KP)

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A PROFILE OF MINNESOTA TECHNICAL COLLEGE STUDENTS

A Study Initiated by
Carole M. Johnson, Chancellor
Minnesota State Board of Technical Colleges

February 1, 1995

JC 950 153

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HUMAN CAPITAL RESEARCH CORPORATION

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findings from
The Economic Baseline Study

conducted by
Human Capital Research Corporation
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A PROFILE OF MINNESOTA TECHNICAL COLLEGE STUDENTS

Executive Summary

The Technical College Market and Mission Is Evolving

Technical colleges are a primary delivery system for life-long learning -- particularly for the ongoing skill development of Minnesota's labor force. In increasing numbers, students enroll in Minnesota's technical colleges having had significant labor force experience, post-secondary education and technical training. As a result, a growing proportion of students attend Minnesota's technical colleges to upgrade and hone their skills.

To effectively serve this changing student body, technical college faculty and the technical college curricula must be closely attuned to the dynamics of the Minnesota economy and labor force. Information and delivery systems which ensure that program offerings meet the needs of Minnesota's labor market are become increasingly important. *To remain effective, technical colleges will require even stronger ties with industry, better information about labor market needs, and an infrastructure that readily transforms labor market needs into new programs, course offerings and delivery systems.*

An Institution's Culture and System of Student Support Profoundly Affects Learning Outcomes

Under a policy of open enrollment, technical college students face a broad range of academic and personal challenges to their learning. Overall, utilization of technical college support services runs high: *Seventy percent of all dependent students and 54 percent of all independent students receive some form of additional tutorial support such as basic math, study skills and writing skills.* In addition, single parents, AFDC recipients, ESL students, dislocated workers, displaced homemakers and physically challenged students represent just some of the populations who demonstrate a greater demand for specialized services and for whom such services make a significant difference in terms of educational success and goal attainment.

Because Minnesota's policy for institutional support appropriates funding on an FTE basis, the capacity to provide critical support services is weakened. Institutions serving part-time students are only partially reimbursed for services that do not vary proportionately with a student's credit load, or for students who require support services that exceed the average cost reimbursement. Under current policy, Minnesota institutions face financial incentives to serve students with the least amount of service needs -- thereby undermining the very cornerstone of an open enrollment policy. Because support services have been clearly and repeatedly linked to academic success, these critical services must be understood as an investment rather than an expenditure, and should be justified on the basis of their impact on student learning -- particularly for disadvantaged students.

The provision of financial aid must be similarly understood as an investment rather than an expenditure. Currently, students who attend any Minnesota college or university on less than a full-time basis receive proportionately less grant aid than their full-time counterparts. As a result, part-time students seeking a formal award will pay as much as 30 percent more than a full-time student to complete an identical program. Because many of these students face competing responsibilities that limit their ability to take greater course loads and also lack the resources to independently fund the full cost of attendance, an unaided part-time student is among the most likely to disrupt their education. *Providing adequate financial aid for all needy students is therefore critical not only to ensuring access and choice, but to bolstering retention, academic goal attainment and timely completion.*

Learning Outcomes Reaffirm a Policy of Open Enrollment

Of the many factors that contribute to a successful training experience, none is more critical than having a well defined educational objective. Students who are certain of their educational goals are nearly twice as likely to complete a program or sequence of courses than those who are uncertain of their plans.

Of all students surveyed who exited the technical college system, 60 percent achieved their educational objective. This comparatively high goal attainment rate exists almost irrespective of student social or demographic characteristics and is achieved without mandatory placement standards. Moreover, among all students who exit Minnesota technical colleges, more than 66 percent plan on returning for additional training -- reaffirming both customer satisfaction and the role of technical colleges as providers of life-long learning.

The observed parity in goal achievement rates is particularly significant because it demonstrates that an open enrollment policy that accepts and trains all students -- regardless of academic, demographic or social background -- is both viable and productive. The capacity to respond to the diverse and often regionally distinct needs of students depends not only on sufficient funding, but on a high degree of institutional autonomy that enables college faculty and staff to independently discover and develop the programs and delivery systems that best serve their students and their enterprise.

Minnesota's portfolio of jobs paying middle class wages is changing -- and workers know it. Who now comes to technical college, why they come, and how they choose to use the system's resources has evolved from a system oriented almost exclusively to new entrants in the labor force to one which is geared to life-long occupational skill development. By contrast, most of Minnesota's post-secondary education resources remain centrally focused on traditional patterns of participation and neither strategically embrace nor fully comprehend the operational and market implications of life-long learning. Minnesota's technical colleges are fast becoming the state leaders in meeting this emerging economic reality.

PREFACE

While national income has increased steadily for more than a decade, 1993 marked the fourth consecutive year of declining income for families at or below the median income level. While there is a growing consensus that the reversal of this decline requires an increase in national productivity and a more highly skilled labor force, it is less certain how federal, state and local policies can best work together to ensure that *all* individuals contribute and benefit from that investment.

Under the current federal administration, increasing effort has been directed to encourage investment in workforce development and greater flexibility in the delivery of human services. Towards that end, technical education has emerged as a focal point for rethinking the significance of secondary education, post-secondary education, the school-to-work transition and life-long learning as integral parts of national and state labor force policy.

While various human capital investment strategies embrace technical training, there remains scant information concerning the training processes or the experiences and outcomes of training participants. Indeed, we even lack a commonly accepted definition of a vocational student, let alone a deeper understanding of prior labor force experiences and student motivations.

Minnesota is one of approximately six states that maintains a large scale post-secondary system of education dedicated exclusively to the delivery of technical training for employment. As such, this enterprise offers a rare opportunity to better understand the delivery of technical education under a singularly focused model, as opposed to the more common hybrid model that blends technical training with other forms of post-secondary education.

This document offers a first look at that singularly focused enterprise, and offers policy makers in Minnesota and elsewhere an opportunity to become better acquainted with post-secondary technical training and its implications for workforce development.

INTRODUCTION

- Minnesota's technical colleges seek to provide cost-effective training for the Minnesota labor force. The technical colleges also seek to maintain a policy of open enrollment in which all students are eligible to attend, regardless of their economic, social, or educational background. Together, these two policies have stimulated the participation of a highly diverse technical college student population. This diversity is a central facet of technical college education--attracting individuals from all walks of life and helping them achieve their shared objectives.

- To better understand how the technical colleges impact their students and the Minnesota economy, the Minnesota Technical College System has sponsored the Minnesota Technical College Economic Baseline Study, a three-year longitudinal survey of more than 8,000 Minnesota technical college students drawn from 34 campuses across the state. For students age 23 and younger (dependent students) the survey was administered to both the student and the parent(s); for students age 24 and older, or those students deemed financially self-sufficient (independent students) the survey was only administered to the student. The sample was drawn in proportion to actual enrollment data and was evenly divided between dependent and independent students. The survey, begun in July 1992 and conducted in multiple waves, has consistently achieved response rates of 65 to 70 percent and has a sampling margin of error of plus or minus three to five percent for most questions.

- The study was specifically developed to:
  - Profile technical college students and their perceptions of their technical college
  - Assess the impact of the Minnesota technical colleges on attending students and on the state's economy
  - Design strategies to increase the value of the technical colleges to attending students and the state of Minnesota
  - Inform public policy concerning workforce development and investment

- This document summarizes current key findings from the first year student surveys, focusing on technical college students' backgrounds, goals, costs of attendance, college financing, and their learning experience.

DOCUMENT OVERVIEW

- Chapter 1: Student Characteristics (Pages 4-13)
- Chapter 2: Student Goals (Pages 14-21)
- Chapter 3: Learning Challenges and Support (Pages 22-31)
- Chapter 4: Exiting Behavior (Pages 32-36)
- Summary and Implications (Page 37-42)

CHAPTER 1: STUDENT CHARACTERISTICS

- The technical college student population has diversified substantially during the past five years, although the socio-economic profile of technical college students still differs markedly from the "traditional" baccalaureate student profile.

- The technical college student population is now virtually evenly divided between dependent students who are under age 24 and still financially supported by their parents, and independent students who are typically age 24 or older and often have families of their own.

- Technical college students have a wide range of employment experiences -- from students with no labor force experience to students with long careers with a single employer. Of those students with labor force experience, about half are no longer working in their primary occupations.

Student Participation

The Minnesota technical college population is growing and may exceed 100,000 students by 1996. This growth has been driven in part by technical college curricula restructuring during the late 1980s and early 1990s, which has given students greater flexibility in entering programs and organizing their course loads. The technical college population growth has also been driven by dramatic increases in participation rates among independent students, particularly women. At present, one-half of all enrolled students are dependent students and one-half are independent students.*

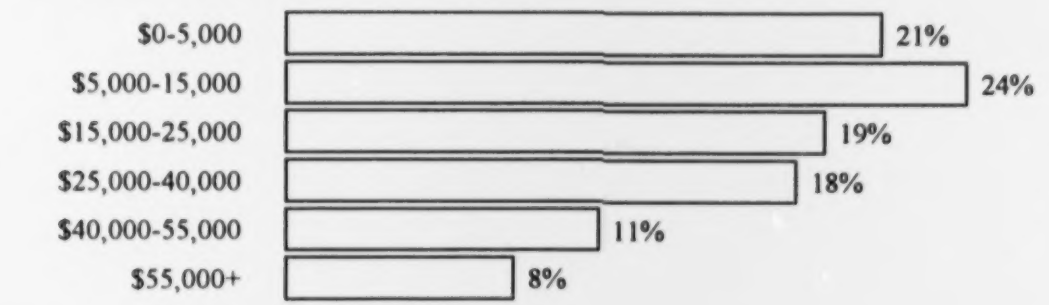
*"Dependent students" are students age 23 or younger who receive financial support from their parents.
"Independent students" are students age 24 or older or students who are deemed financially self-sufficient.

Socio-economic Profile

The technical college population is economically diverse, with a significant representation of low income families. The 1992 median family income for independent technical college students was $17,000 -- less than half of the state household median. The 1992 median family income for dependent technical college students is $33,000 which is approximately $17,000 less than the median family income for dependent students at Minnesota's baccalaureate granting institutions.*

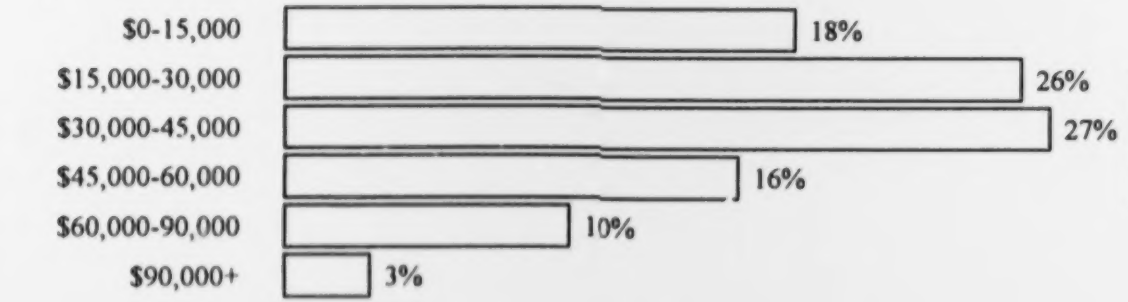
1992 Family Income of Technical College Students

Independent Students



71 percent of all independent students are the primary wage earners in their families.

Dependent Students



61 percent of dependent student families rely on two parent incomes.

*Ways and Means: How Minnesota Families Pay for College. Minnesota Private College Research Foundation, November 1992. The state household median and the median family income of dependent baccalaureate students based on 1991 figures.

The social characteristic profile of independent technical college students is much different from the profile of "traditional" baccalaureate college students. Most notably, independent students typically have significant family and employment responsibilities, and almost one-third rely on some form of public assistance.

Key Social Characteristics of Independent Students

Family Characteristics

- 53 percent are married
- 59 percent have children of their own and of these parents, 35 percent are single
- Female independent students are twice as likely to be divorced, separated, or widowed as their male counterparts: 29 percent of all woman are divorced, separated, or widowed compared to 13 percent of all men. For independent students age 40 or older, 35 percent of the women are divorced, separated, or widowed, compared to 16 percent of the men.
- 6 percent of all independent students live with their parents
- 49 percent of the parents of independent students do not have a Bachelor's or other post-secondary degree

Family Resources

- 30 percent received some form of public assistance in 1992 and 16 percent received AFDC (Aid for Families with Dependent Children)
- 34 percent had no health insurance for at least one month during 1992
- 43 percent worked more than 20 hours per week while attending college
- 50 percent own their own home

The social characteristic profile of dependent technical college students conforms relatively closely with the profile of "traditional" baccalaureate college students, with some notable exceptions: 54 percent work 20 hours or more during the academic term, and 11 percent have children of their own.

Key Social Characteristics of Dependent Students

Family Characteristics

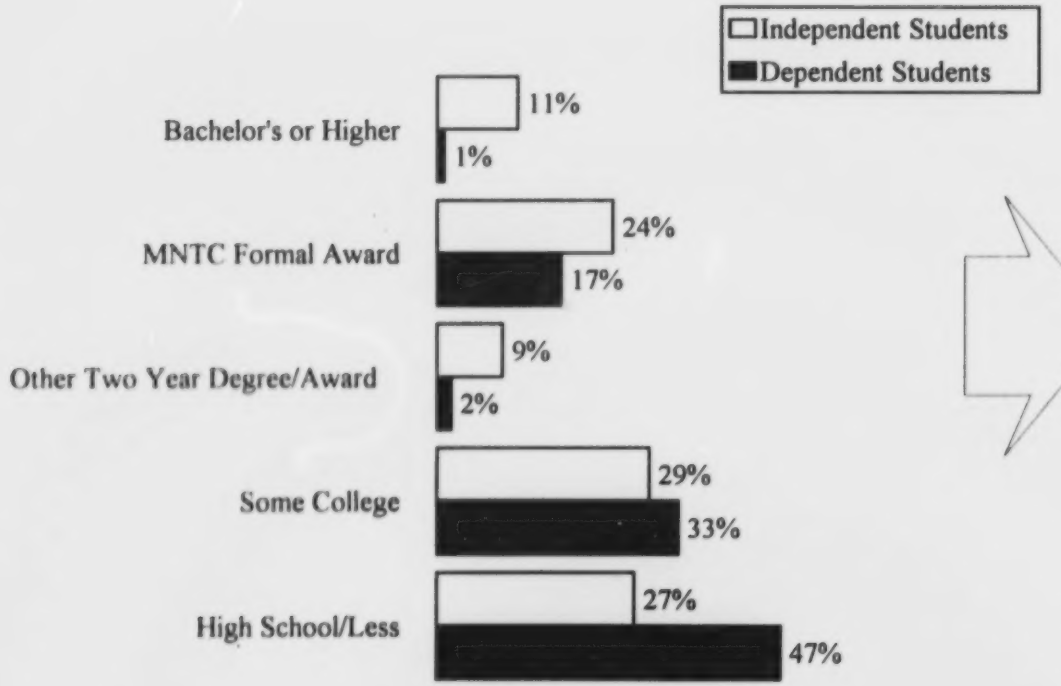
- 60 percent live away from their parents
- 11 percent are married
- 11 percent have children of their own and of these parents, 84 percent are single
- 18 percent are from single parent households
- 25 percent come from families with three or more children
- 55 percent of the parents of dependent students do not have a Bachelor's or other post-secondary degree

Family Resources

- 14 percent come from families that received some form of public assistance in 1992 and 5 percent come from families that receive AFDC
- 18 percent come from families that had no health insurance for at least one month during 1992
- 54 percent worked more than 20 hours per week while attending college
- 79 percent come from families that own their own home

Almost one-third of all technical college students have already earned a formal award (college degree, diploma or certificate), and about one-fifth of all technical college students have already earned a formal award from a Minnesota technical college (MNTC). This comparatively high proportion of technical college "repeat customers" appears to reflect the changing economy and labor market, and illustrates the role technical colleges play in the continuous training of the labor force. As Minnesota's college-educated population expands and matures, the proportion of technical college "repeat customers" should continue to rise.

Students Highest Education Attainment*



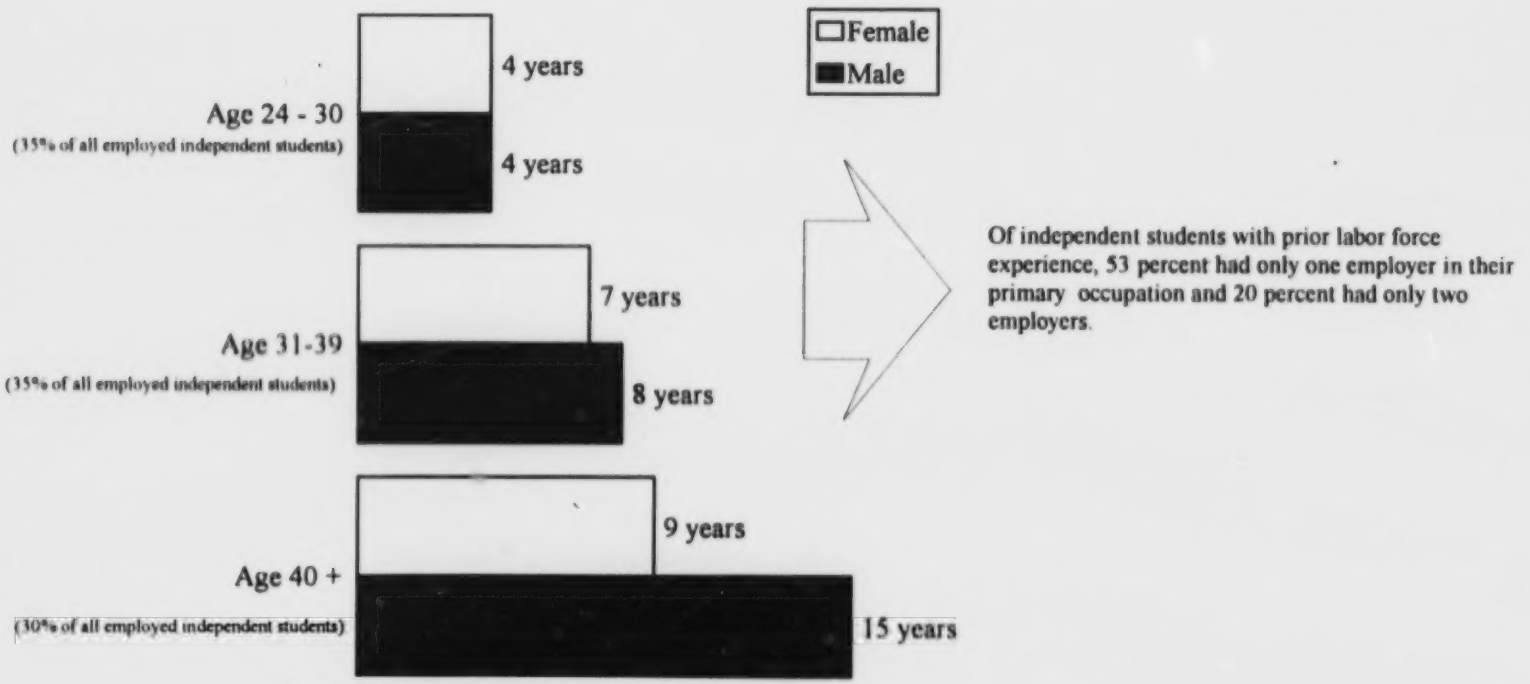
Nearly 50 percent of all independent students have not received ten or more hours of classroom instruction in at least seven years, even though many independent students already have a college degree or formal award.

*The education level of the student prior to participating in the MNTC study.

Labor Force Experience

Contrary to popular misconceptions, more than 70 percent of all independent students have had full-time labor force experience prior to enrollment at technical college. More than half of these students were employed in a single occupation for at least six years. Among those independent students with no prior full-time labor force experience, 70 percent are female.

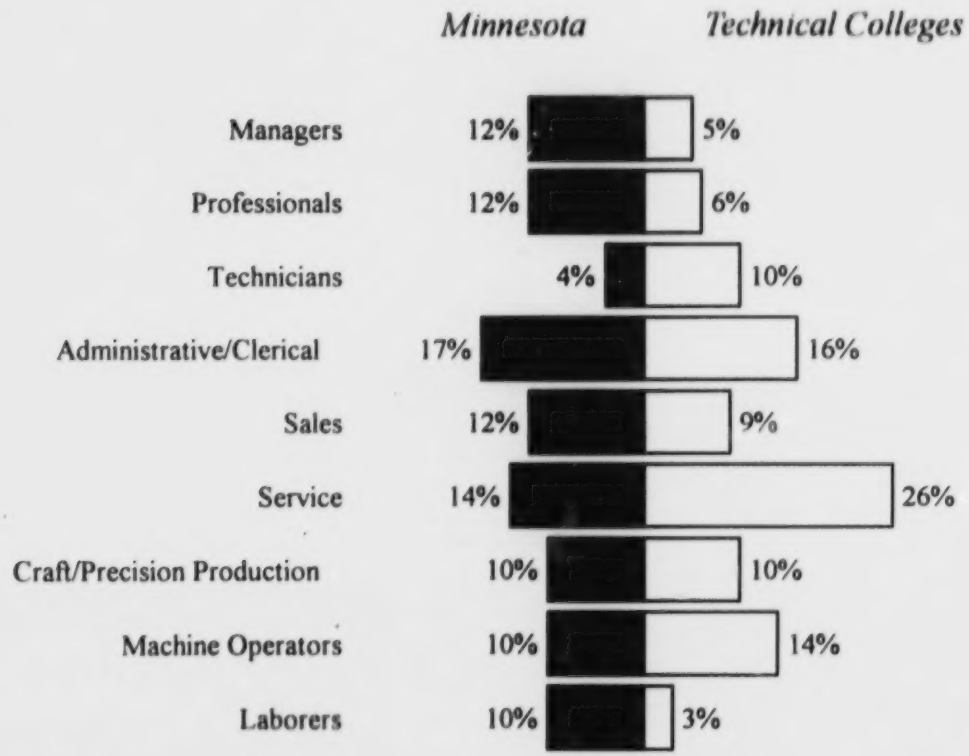
Median Number of Years Employed Independent Students Worked in Primary Occupation*


Female
Male
Age 24 - 30
(35% of all employed independent students)
4 years
4 years
Age 31-39
(35% of all employed independent students)
7 years
8 years
Age 40 +
(30% of all employed independent students)
9 years
15 years
Of independent students with prior labor force experience, 53 percent had only one employer in their primary occupation and 20 percent had only two employers.

*Survey respondents self-reported the occupation which best represented their abilities and primary employment experiences for the last seven years as their "primary occupation."

The occupational backgrounds of technical college students prior to enrollment are not proportionally representative of Minnesota's labor force. Nonetheless, technical college students come from virtually every field, including managerial and professional occupations, and demonstrate a wide variation in skill levels and compensation. Among independent students with prior labor force experience, 14 percent earned less than $6 per hour before starting technical college and 37 percent earned between $6 and $8 per hour. At the same time, 40 percent earned $12 or more prior to beginning technical college.

Comparison of Occupation Distributions: Minnesota Labor Force* and Independent Students Prior to Enrollment in Technical College



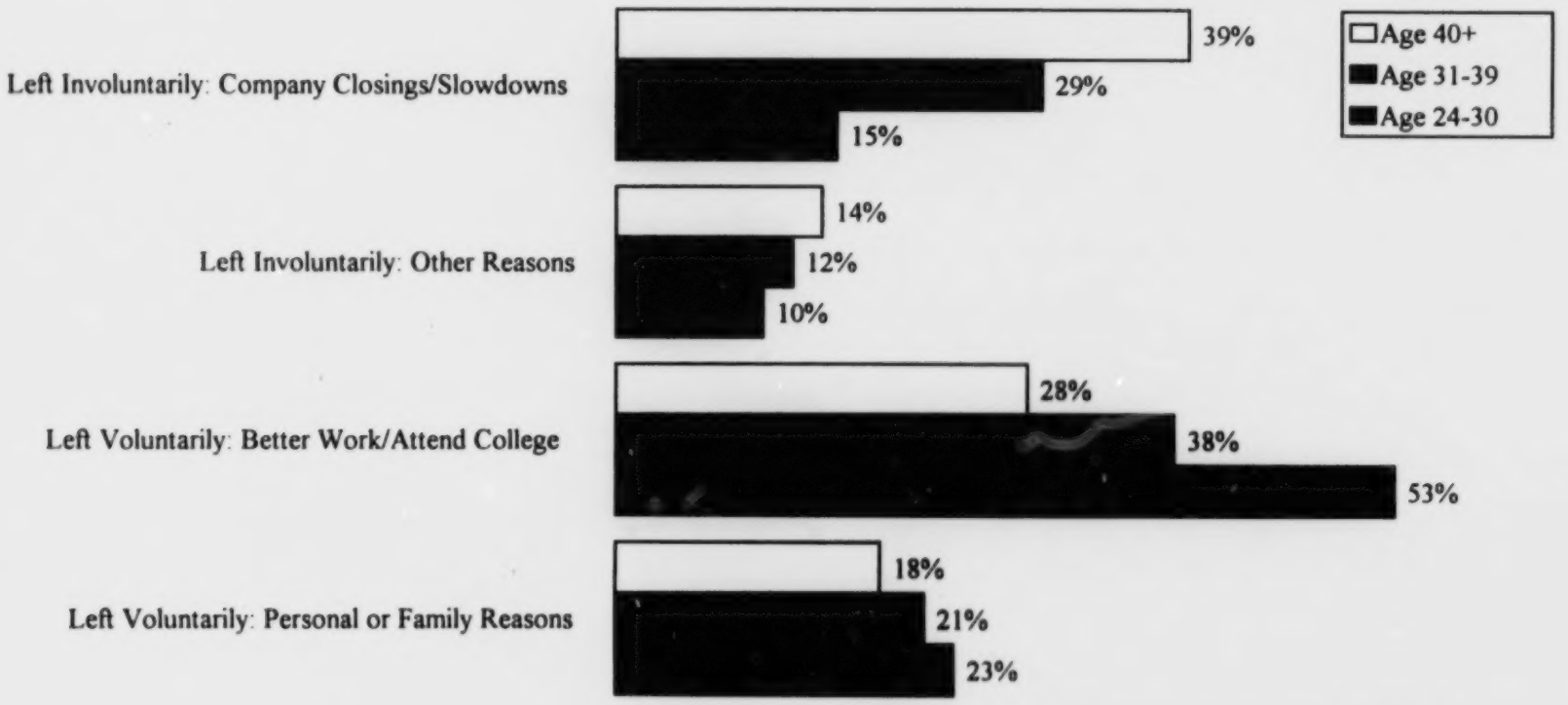
Among independent students who are currently employed, 53 percent receive health care benefits and 28 percent are eligible for tuition reimbursement from their employer.

Among independent students who are dislocated workers**, 76 percent received health care benefits and 32 percent were eligible for tuition reimbursement from their former employer.

*Bureau of Labor Statistics. 1993-Geographic Profile of Employment and Unemployment.
** "Dislocated workers" are those who left their primary occupation due to company closing, work slow-down or reorganization.

Almost half of all independent students with prior labor force experience are no longer employed in their primary occupation. Among older independents (age 40+) who are no longer employed in their primary occupation, 53 percent left their former position involuntarily. By contrast, 76 percent of younger independents (age 24-30) who are no longer employed in their primary occupation, left their former positions voluntarily -- with more than half leaving specifically to find better employment and/or attend college.

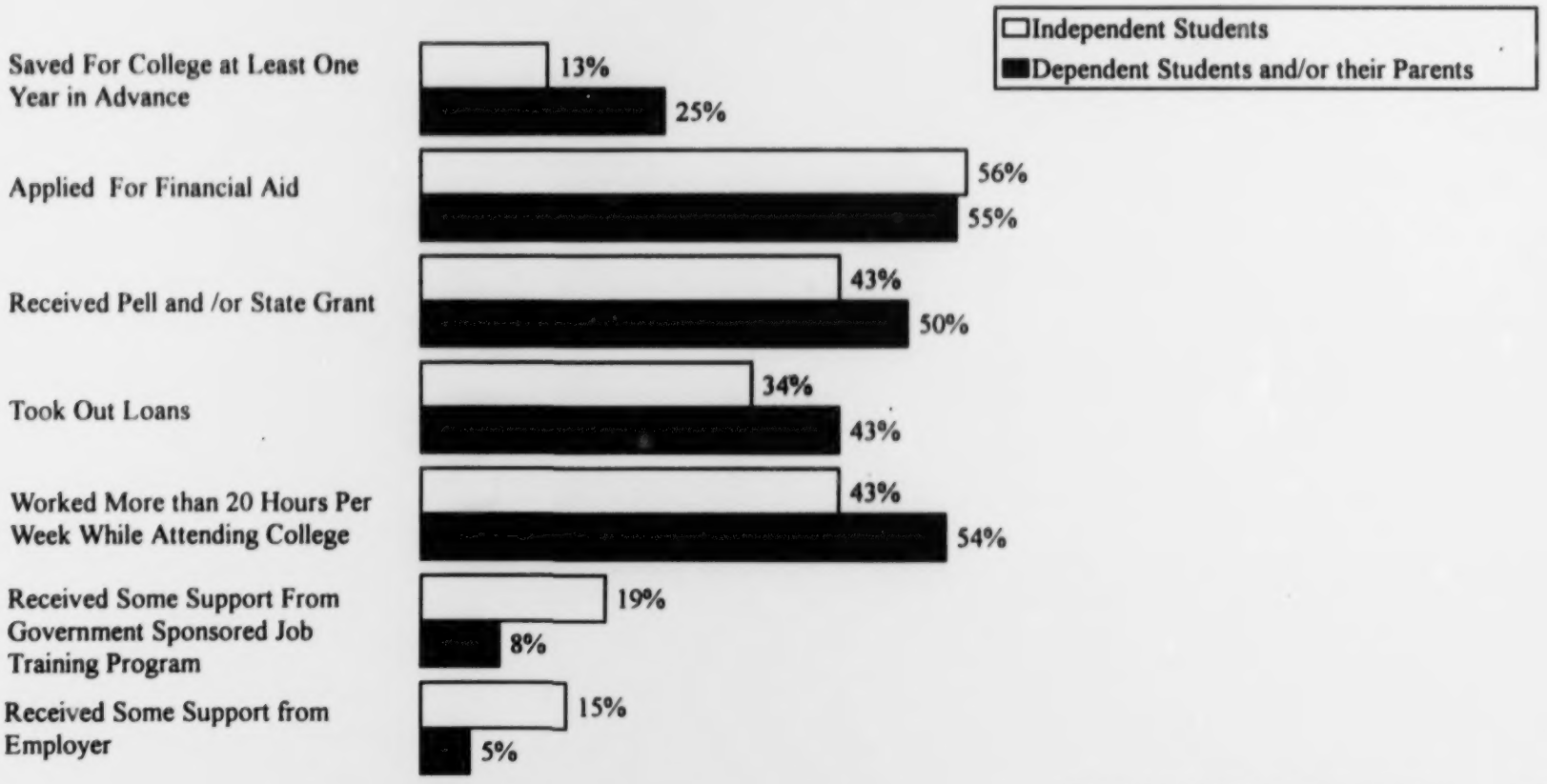
Reasons Independent Students No Longer Work In Their Primary Occupation



Financing Challenges

Technical college students have a comparatively low family income, with a median family income of $17,000 for independent students and $33,000 for dependent students. As such, these families are extremely limited in their capacity to save for technical college, and fewer than one in five technical college families have saved for their education. This modest savings rate is also attributable to the comparatively short lead time from application for enrollment to the first day of classes (approximately three months). While more than 60 percent of all students receive grants and/or assume loans to help pay for college, current income is often the primary funding source for both independent and dependent students.

How Technical College Students Financed their Education



CHAPTER 2: STUDENT GOALS

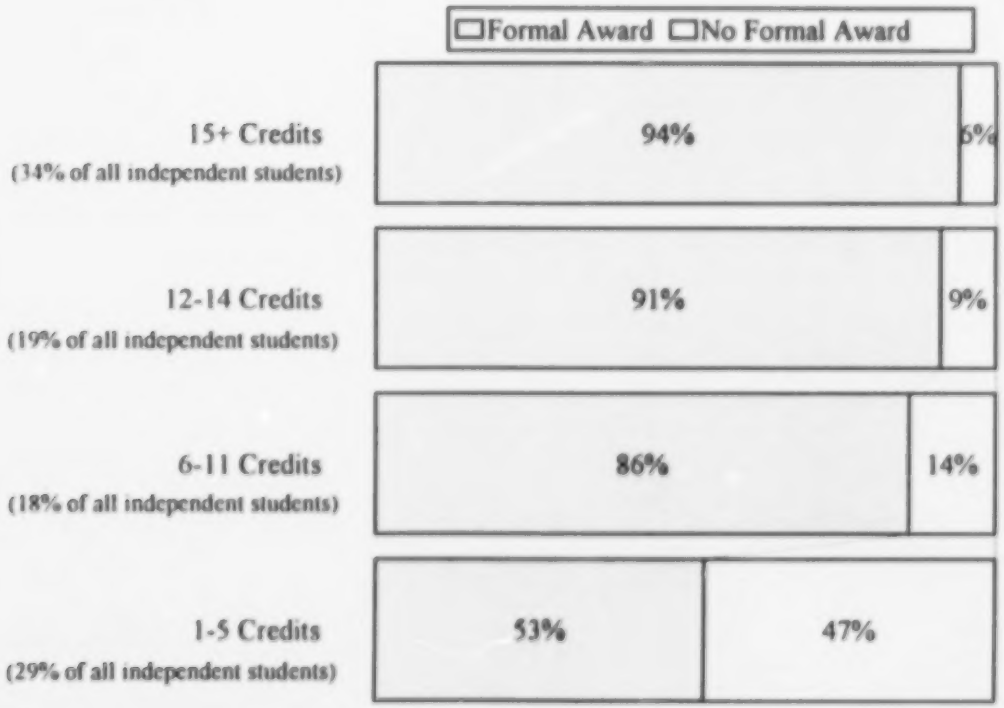
- Nearly all technical college students share the same educational objective of earning a formal award (college degree, diploma or certificate) and the vast majority expect to accomplish that goal within two years.

- In addition to preparing technical college students to enter the labor market for the first time and helping others upgrade their existing skills, a large and growing proportion of students seek to change careers and enter fields unrelated to their current occupations.

Educational Objectives

Credentialling and certifying competencies are an integral part of technical college training: More than 80 percent of all independent students seeks a formal award (degree, diploma or certificate). Independent students' course loads are almost equally divided between part-time an full-time status, with slightly more (53 percent) attending full-time.

Educational Objective of Independent Students By Credits Enrolled



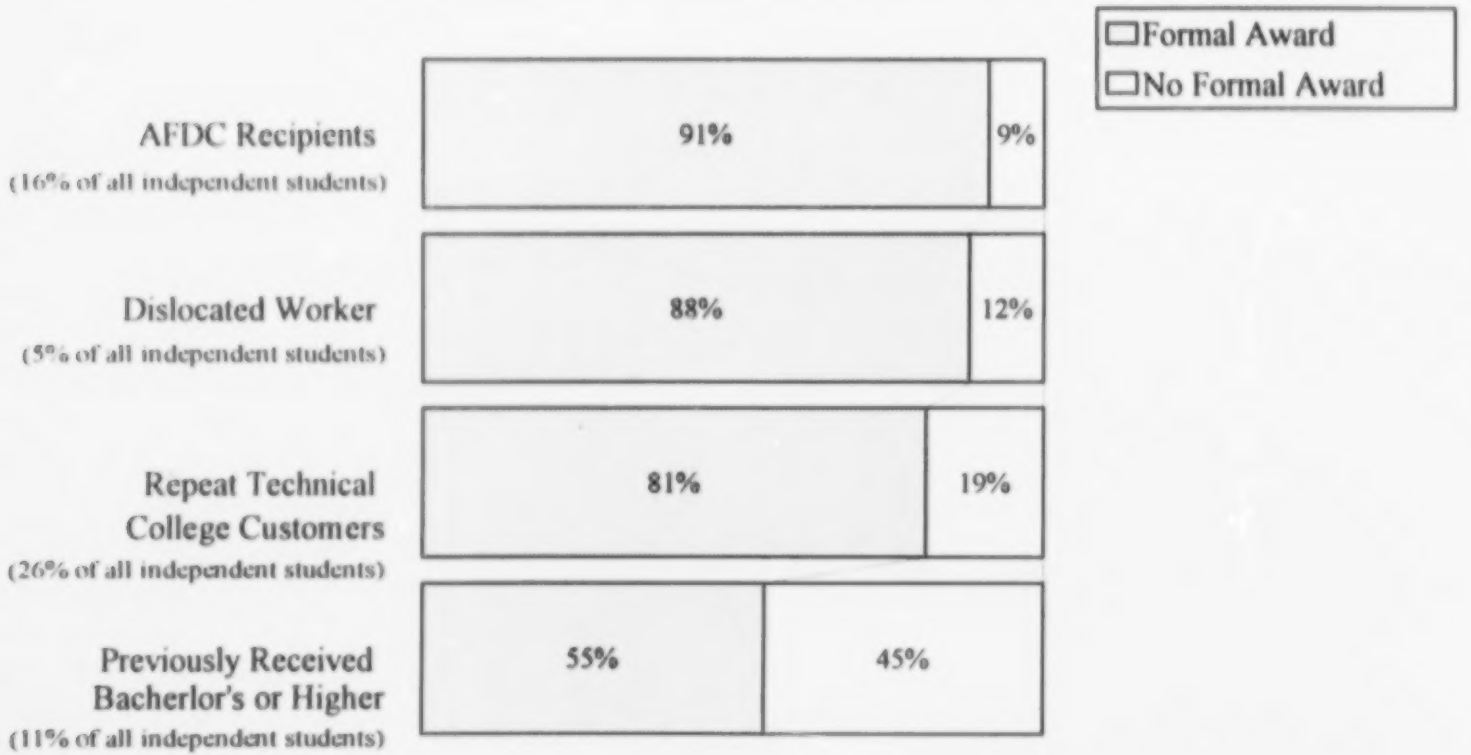
Among full-time independent students seeking a formal award, 75 percent plan to complete their program within two years.

Among part-time independent students, 57 percent plan to finish their program in two years or less.

*Independent students who involuntarily left their primary occupation due to company closing, work slow-down or reorganization are classified as "dislocated workers."

The objective of earning a formal award is also widespread across different student cohorts. Even among those student who have a bachelor's degree or higher, over half seek a formal technical college award.

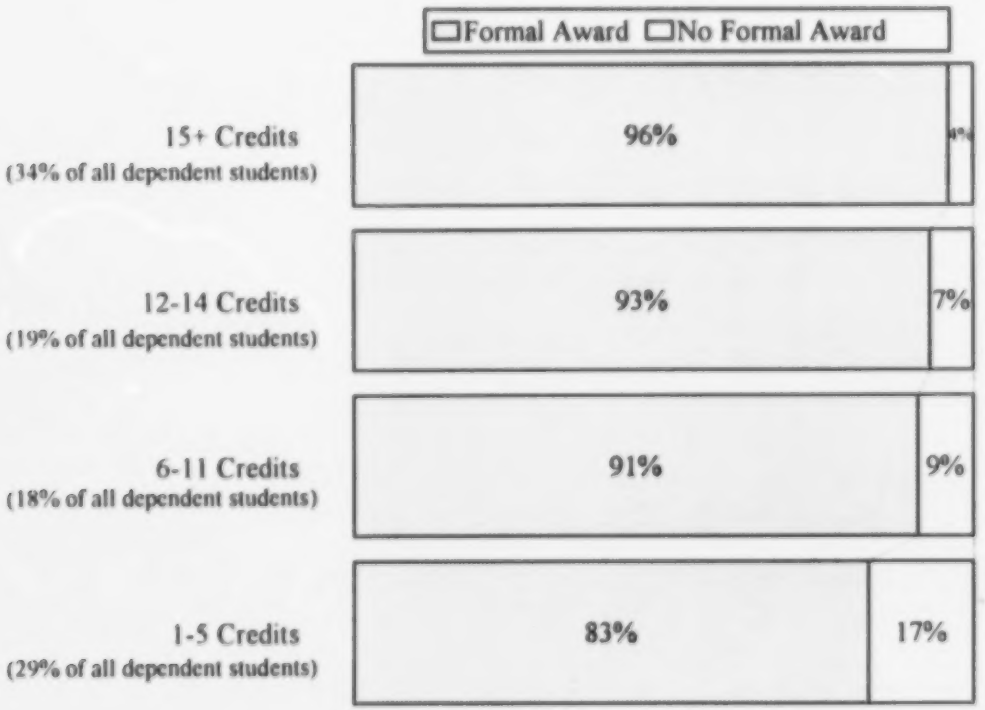
Educational Objective of Independent Students By Selected Cohorts



*Independent students who involuntarily left their primary occupation due to company closing, work slow-down or reorganization are classified as "dislocated workers."

Because dependent technical college students are under age 24, they are much less likely to have already earned a post-secondary degree then independent students. Dependent students are therefore even more likely to pursue a degree, diploma, or certificate than independent students, with 94 percent seeking a formal award.

Educational Objective of Dependent Students By Credits Enrolled

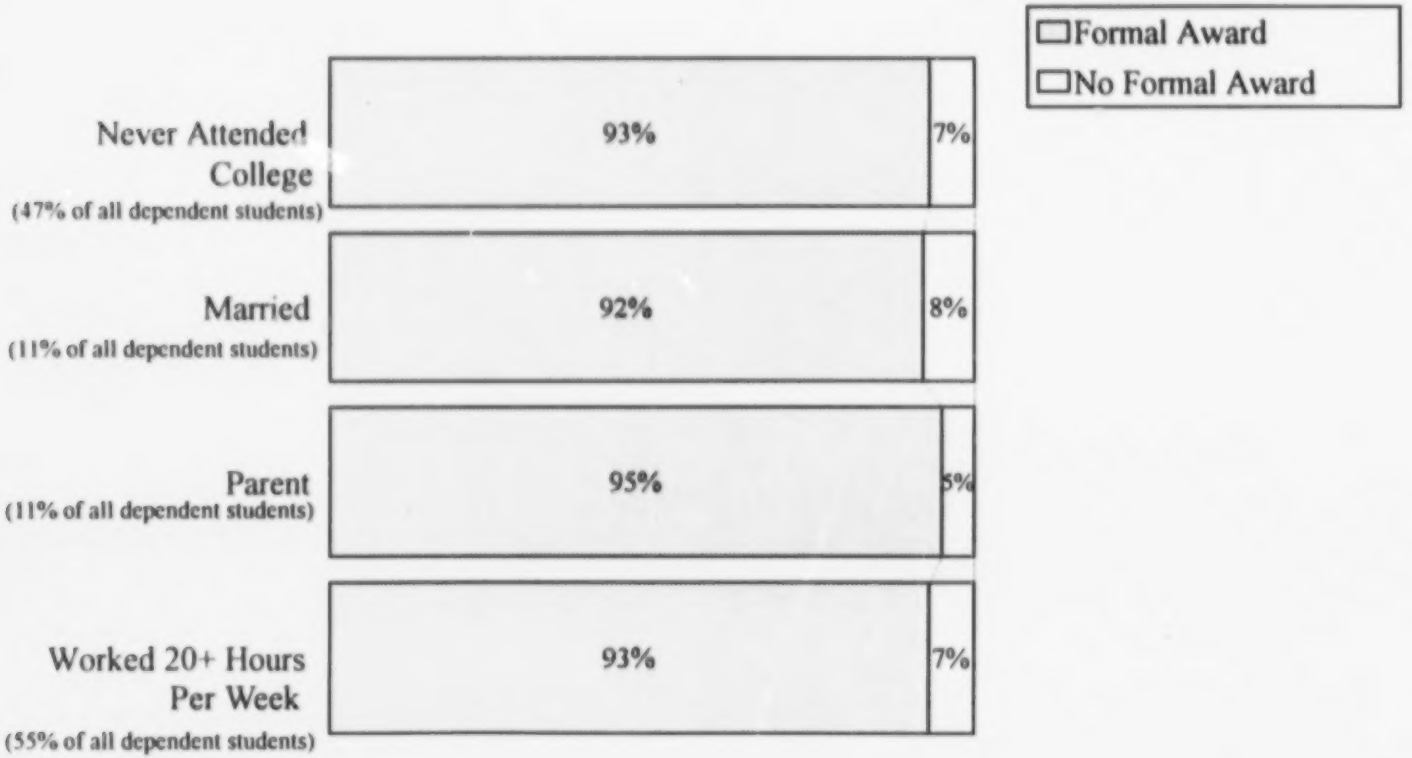


Among full-time dependent students seeking a formal award, 76 percent plan to complete their program within two years.

Among part-time dependent students, 63 percent plan to finish their program in two years or less.

This extremely high proportion of dependent students who are seeking a formal technical college award cuts across many student cohorts, including parents, first time students, married students, and those who work at least 20 hours a week.

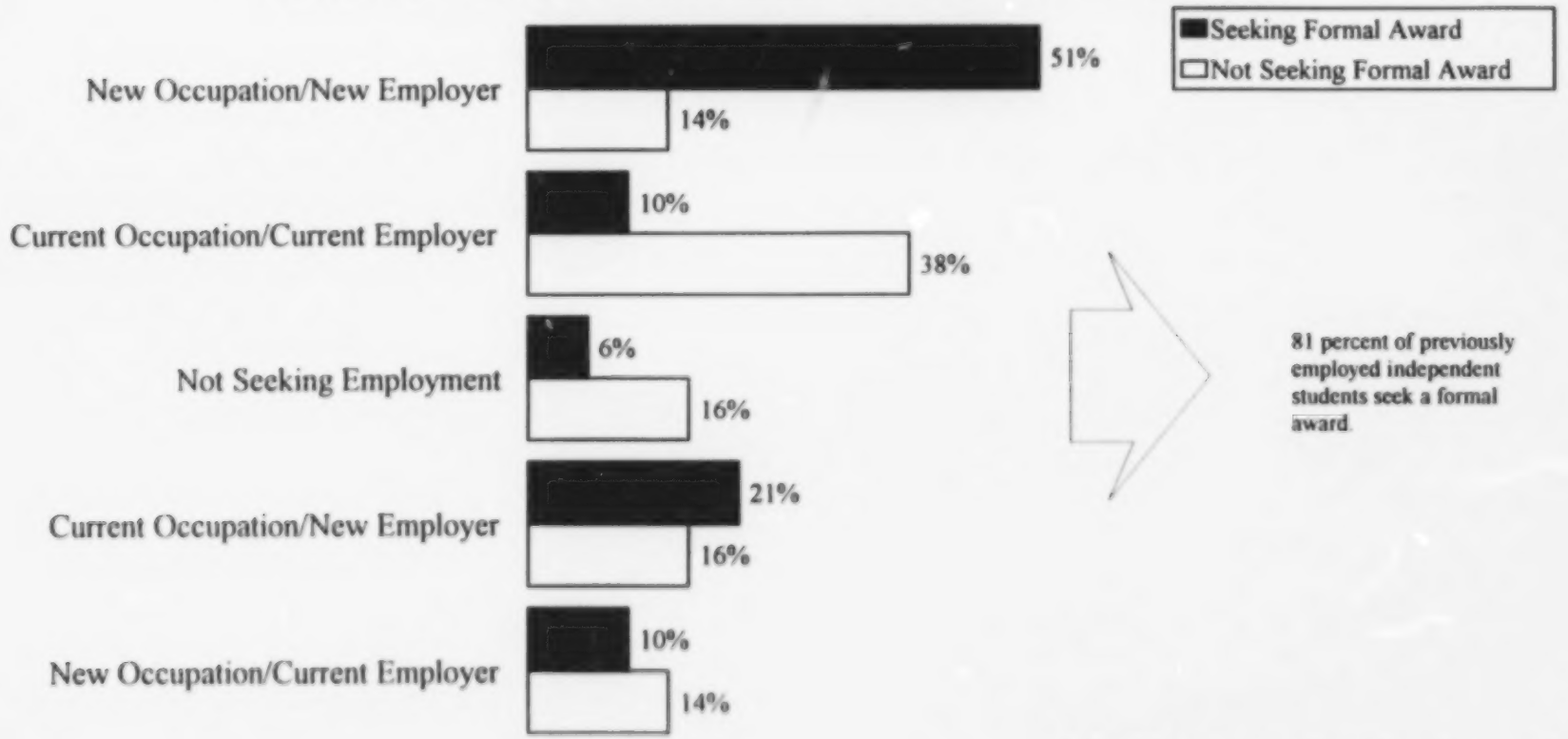
Educational Objective of Dependent Students By Selected Cohorts



Career Objectives

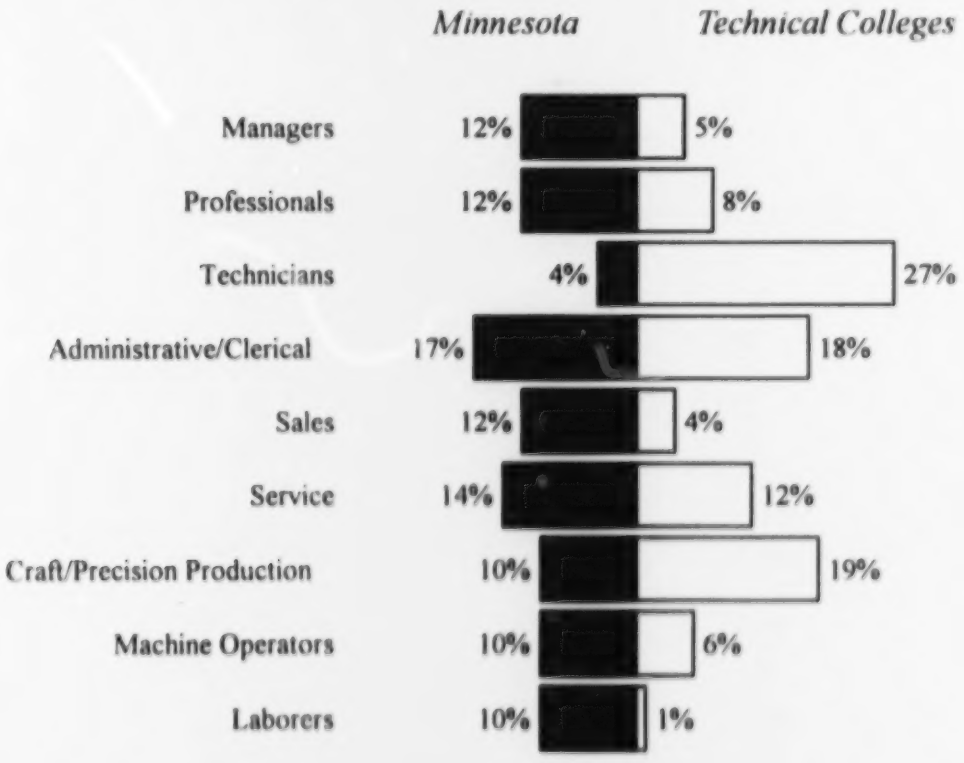
More than 85 percent of *all* students attend technical college to improve their employment situation, and 93 percent plan to work immediately after college. Among award seeking independent students with prior labor force experience, 90 percent plan to change occupations and/or employers. By contrast, students not seeking a formal award tend to be skill upgraders who plan to return to the same occupation and the same employer. In all, about 12 percent of independent students are "starters" or new entrants to the labor force, 57 percent are career "changers" and 32 percent are career "upgraders." Although a majority of dependent students have some labor force experience, few have had sufficient training to be characterized as upgraders or changers.

Previously Employed Independent Students' Career Objectives



While the career aspirations of technical college students are diverse (students identified more than 130 distinct planned fields of employment after college), their numbers tend to cluster around a few core disciplines. Compared with the distribution of occupational employment for the state, the planned occupations of technical college students shows nearly seven times the proportion of technicians, and nearly twice the proportion of craft/precision producers.

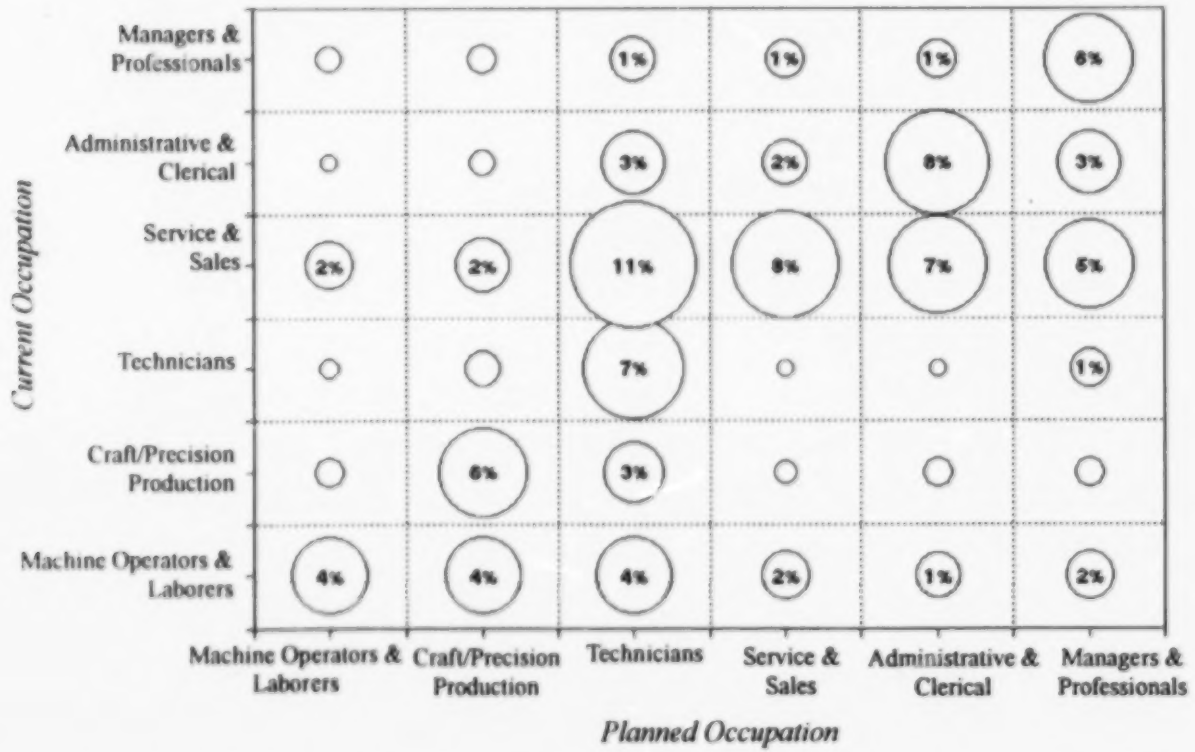
Comparison of Planned Occupation Distributions: Minnesota Labor Force* and All Technical College Students



*Bureau of Labor Statistics. 1992 Geographic Profile of Employment and Unemployment.

Individual careers are not always built from a progressive series of related employment experiences. Among independent students seeking a career change, nearly half have worked in fields unrelated to their planned occupation. While most careers require a "critical mass" of skills within a single field, an increasing number of students will merge a core discipline with other diverse experiences to better establish their position in the labor market. For this reason, technical colleges often serve individuals seeking employment in fields that also require a Bachelor's or advanced degree. For faculty, this diversity of "training strategies" challenges conventional boundaries of curricula design and requires accommodating not only a range of learning styles and competencies, but a range of intended applications for that training as well.

Career Objectives of Independent Technical College Students: Current Occupations Compared to Planned Occupations*



* The bubbles are proportional to the percentage of the group that fall in a given cell. The sum of all bubbles equals 100 percent and represents all independent students with prior labor force experience who plan to work after technical college.

CHAPTER 3: LEARNING CHALLENGES AND SUPPORT

- Establishing an educational goal is the single most important determinant of student success.
- Achieving student objectives often depends critically on both institutional and non-institutional support.
- A cross section of technical college students representing both high achievers and students at risk identify faculty and staff support as being critical to achieving their educational goals.
- The integrated delivery of services improves outcomes for all student groups and helps explain the comparatively high parity in goal attainment among diverse segments of the student population.

Challenges to Learning

One fourth of all students reported that they could not complete most or all of their assignments without help from faculty, staff, or other students, which highlight the critical need for out-of-class learning centers and other forms of academic support services. While one in four students indicated the need for academic assistance, the proportion for some student populations -- including low income students, student of color and AFDC recipients -- is substantially higher.

Students Reporting The Need For Outside Assistance to Complete Most or All Assignments

	Male	Female	Income $0-15,000	Income $40,000+	White Students	Students of Color	Students with Children	AFDC Recipients	Out of Classroom for 7+ years	Received Bachelor's or higher
Independent Students	24%	25%	34%	21%	22%	43%	24%	32%	25%	19%
Dependent Students	26%	24%	31%	24%	24%	37%	27%	30%*	N/A	N/A

One third of all students who need outside academic assistance are uncertain about their academic goals.

*Pertains to parent of dependent students

Delivery of Learning Support

While a majority of students report that they can complete most or all assignments without assistance, more than 70 percent of all dependents and 54 percent of all independents receive some form of tutorial support such as basic math, study skills, writing skills or eight or more hours of help with course assignments and test preparation.

Students Reporting That They Received Academic Assistance

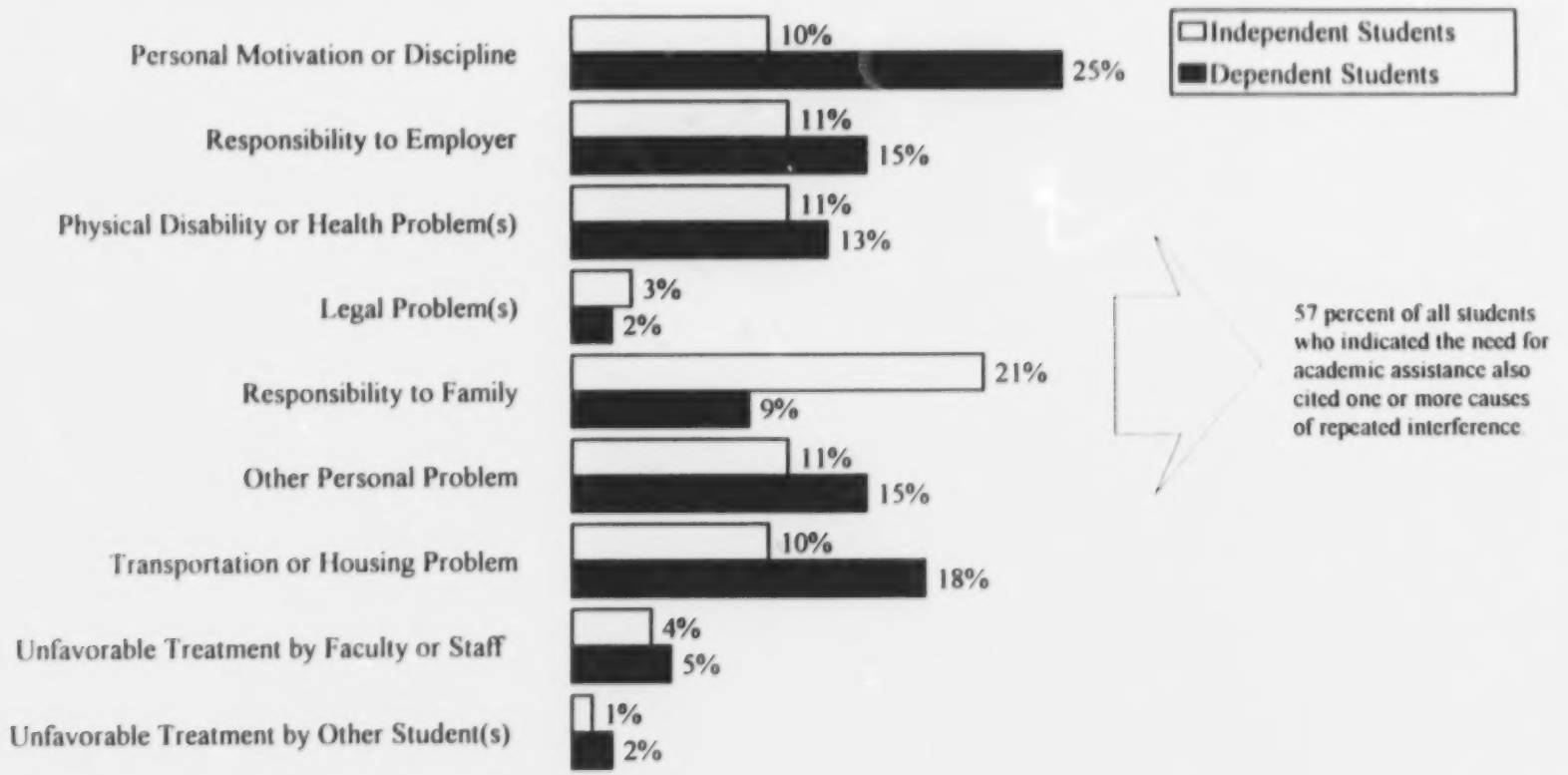
	Male	Female	Income $0-15,000	Income $40,000+	White Students	Students of Color	Students with Children	AFDC Recipients	Out of Classroom for 7+ years	Received Bachelor's or higher
Independent Students	56%	53%	65%	38%	52%	72%	55%	69%	55%	27%
Dependent Students	69%	72%	75%	60%	70%	80%	63%	70%	N/A	N/A

54 percent of all students who received academic assistance also received one or more basic learning assessment tests.

Repeated Interference

In addition to academic challenges, approximately half of all technical college students identified at least one other obstacle that repeatedly interfered with their education. Independent students most frequently identified family responsibilities as a source of interference with their education, while dependent students most frequently identified problems with personal motivation or discipline. The variety of repeated interferences among technical college students emphasizes the need for a multiplicity of support services under a policy of open enrollment.

Students Self-Reported Causes of Repeated Interference With Their Education*

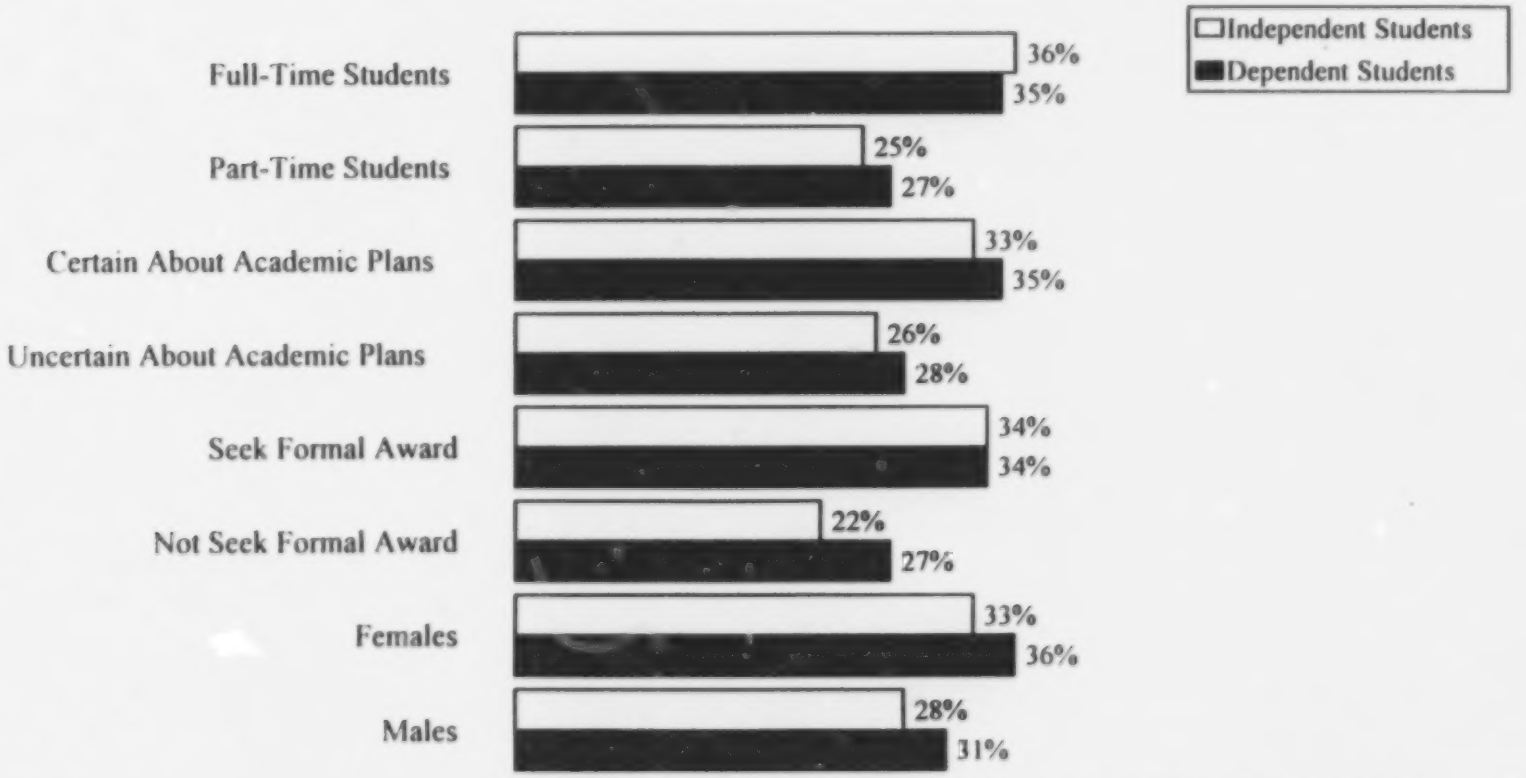


*Repeated interference refers to those constraints that caused students to repeatedly (three or more times) miss class, assignments, or otherwise hinder their education.

Faculty Support

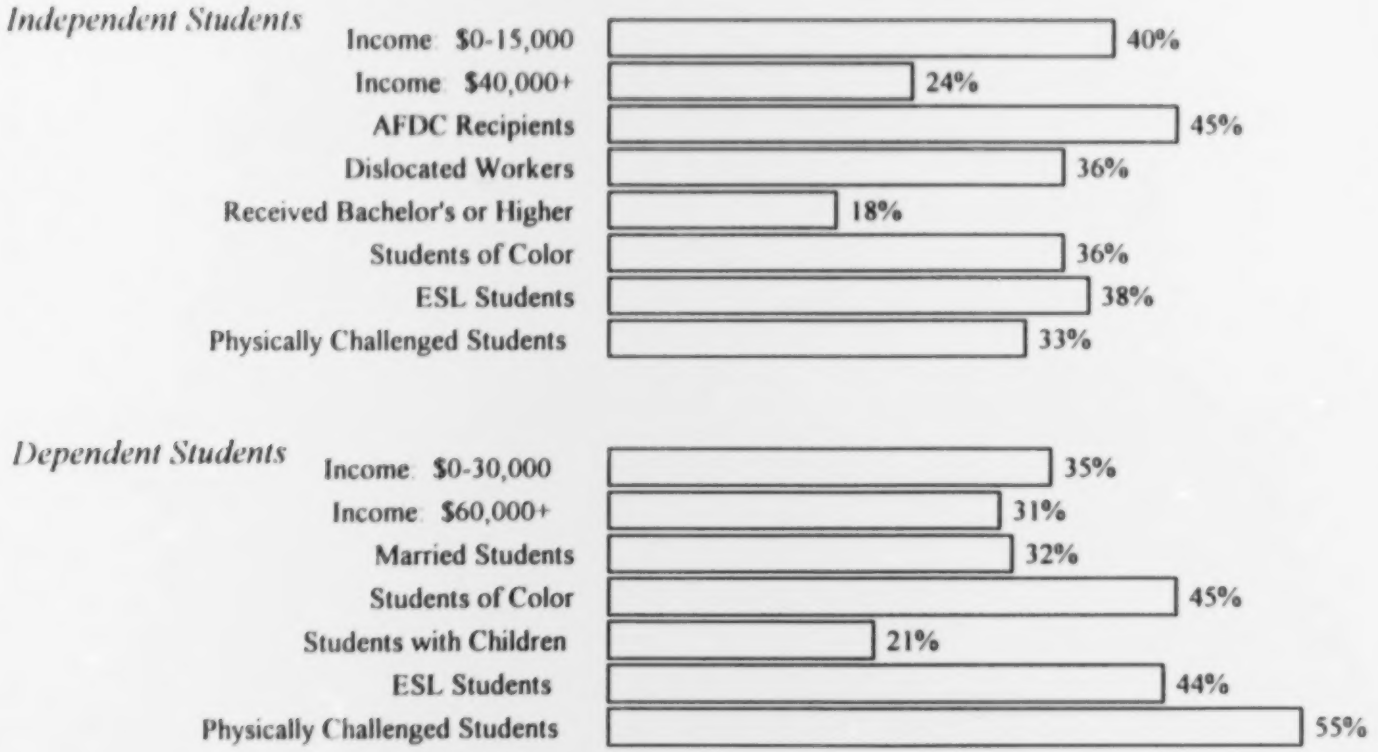
Nearly one-third of all students identify faculty and/or staff who provided ongoing critical support. For students who are more fully integrated into campus life and curricula, however, the likelihood of connecting with faculty or staff is even greater. As a result, students who attend full-time, seek a formal award or are certain of their educational plans are much more likely to identify critical faculty or staff support than their counterparts.

Students Who Identified Faculty/Staff Member(s) As Providing Them With Ongoing Critical Support



In addition to students with strong ties to campus and curricula, special student populations -- including AFDC recipients, low income students, students of color, ESL (English as a Second Language) and students who are physically challenged -- are very likely to identify critical faculty and/or staff connections

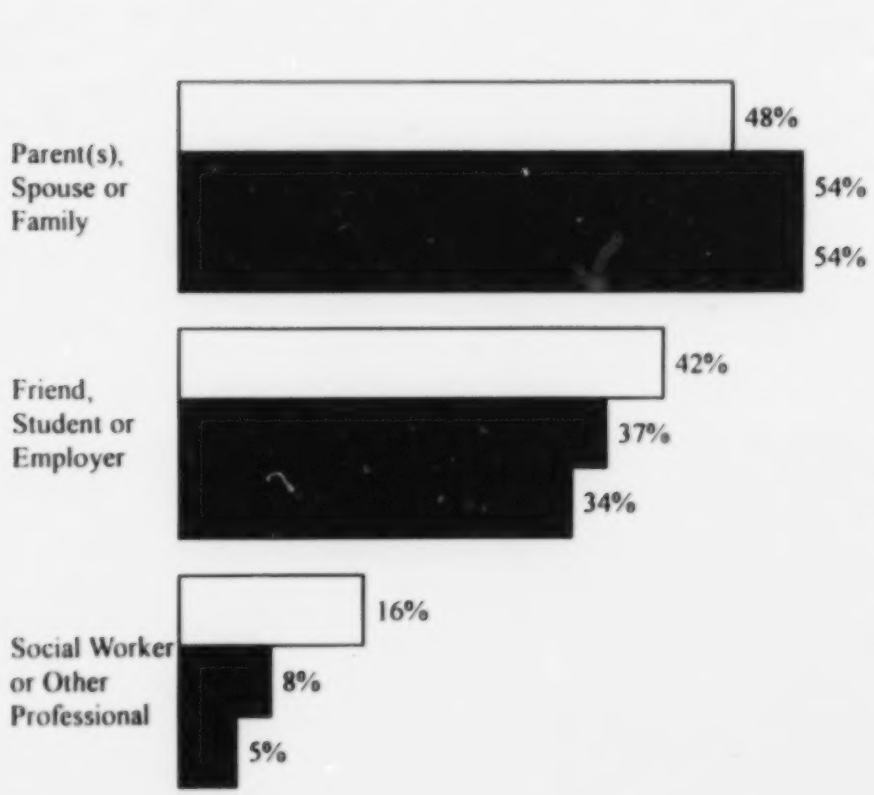
Students Who Identified Faculty/Staff Member(s) As Providing Them With Ongoing Critical Support



Non-Institutional Support

As important as faculty and staff support is for certain student populations, non-institutional support may be even more critical Nearly 75 percent of all technical college students identify at least one individual other than faculty or staff who provided ongoing vital support (other than financial)

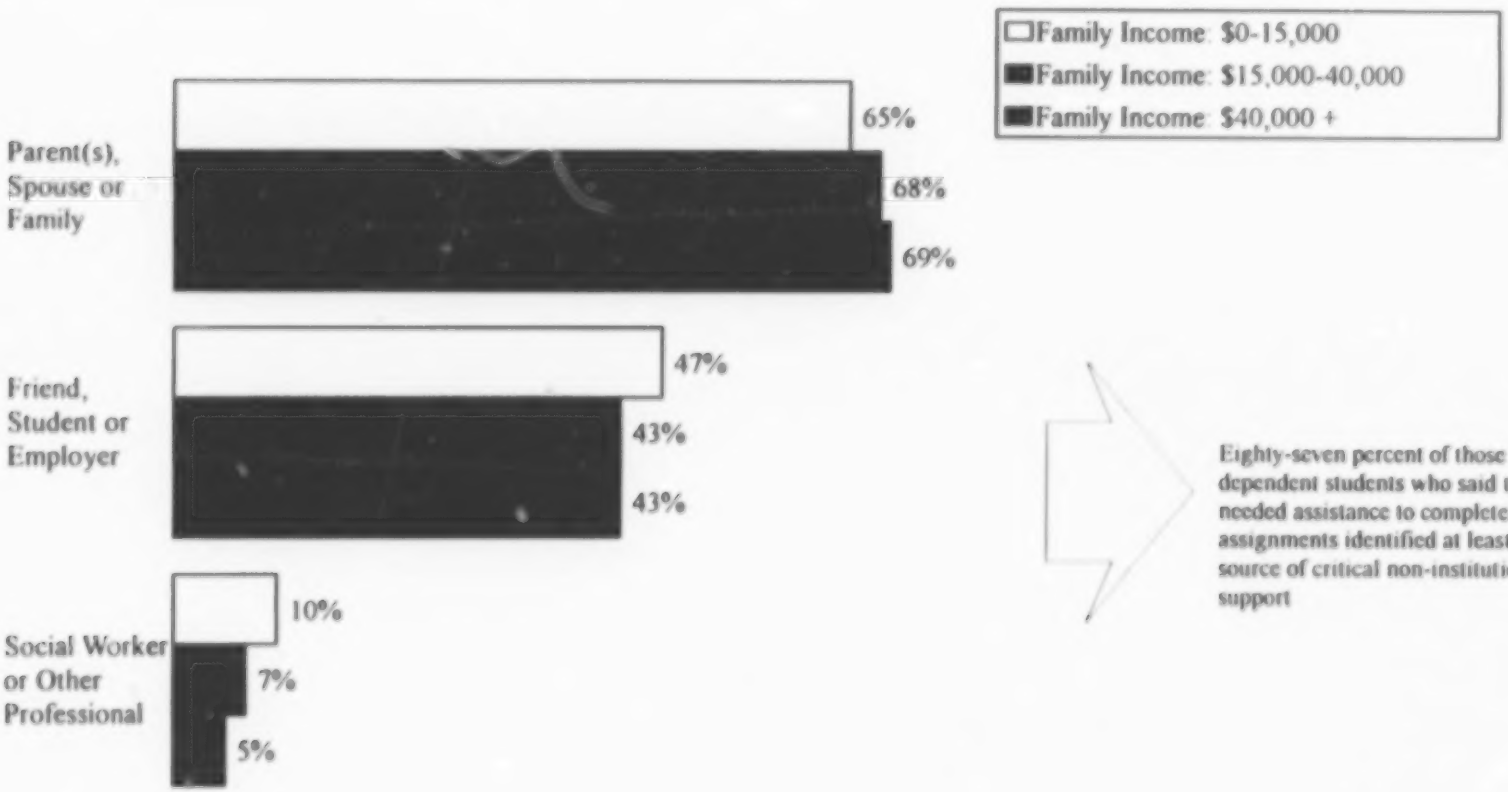
Sources of Critical Non-Institutional Support for Independent Students



Sixty-nine percent of those independent students who said they needed assistance to complete assignments identified at least one source of critical non-institutional support

While family members represent the most likely form of support for all students, that likelihood decreases as family income declines. At the same time, lower income students are more likely to identify friends and/or outside professionals who have made a critical difference to their training. For technical colleges to fulfill their mission, it is necessary to approach service delivery through partnerships with other organizations and individuals on and of campus.

Sources of Critical Non-Institutional Support for Dependent Students



Eighty-seven percent of those dependent students who said they needed assistance to complete assignments identified at least one source of critical non-institutional support

Predicting Student Success

Of the many factors that contribute to a successful training experience, none is more critical than a well defined objective. Students who are certain of their academic goal are nearly twice as likely to complete a program or sequence of courses then those who are uncertain of their plans. While clarification of training objectives and academic ability are key determinants of student goal achievement, non-financial institutional and non-institutional support can dramatically improve outcomes as well.

Percent of Independent Student Goal Achievers: What Influences Success?

Academic Plan Certainty

	Able* to Complete Most Assignments Independently	Not Able* to Complete Most Assignments Independently
Certain Academic Plans	78%	64%
Uncertain Academic Plans	42%	38%

Support For Students

	Certain About Academic Plans & Able* to Complete Most Assignments Independently 78%	Uncertain About Academic Plans & Not Able* to Complete Most Assignments Independently 38%
And Received Support From Family and/or Friends	83%	47%
And Received Support From Faculty and/or Staff	85%	40%
And Received Support From Both Family/Friends and Faculty/Staff	87%	48%

*Students self-reported their ability to complete most assignments independently

Even for students who are certain of their education goals and able to complete most or all assignments without assistance, support networks (on and off-campus) can improve the likelihood of completion. For those students who are less certain and less capable, however, support networks can more than double the chances of successfully completing a program or sequence of courses. While technical colleges are clearly at the center of the training process, these findings suggest that technical education comprises a support system that reaches beyond the colleges themselves.

Percent of Dependent Student Goal Achievers: What Influences Success?

Academic Plan Certainty

	Able* to Complete Most Assignments Independently	Not Able* to Complete Most Assignments Independently
Certain Academic Plans	78%	75%
Uncertain Academic Plans	45%	30%

Support For Students

	Certain About Academic Plans & Able* to Complete Most Assignments Independently	Uncertain About Academic Plans & Not Able* to Complete Most Assignments Independently
	78%	30%
And Received Support From Family and/or Friends	79%	36%
And Received Support From Faculty and/or Staff	86%	54%
And Received Support From Both Family/Friends and Faculty/Staff	92%	61%

*Students self-reported their ability to complete most assignments independently

This preliminary outcome analysis is based on a subsample of technical college students who reported that they would not be returning to technical college for the next academic term. A detailed, comprehensive analysis of technical college student outcomes and labor force implications will be available in June, 1995

CHAPTER 4: EXITING BEHAVIOR

- Approximately 62 percent of all exiting independent students and 58 percent of all exiting dependent students have completed their educational goal
- These comparatively high goal attainment rates exist almost irrespective of student social or demographic characteristics
- 68 percent of all exiting students anticipate returning to technical college in the future

Exiting Behavior

In any given term, 37 percent of all independent students will temporarily or permanently exit the technical college system. Most exiting independent students (62 percent) leave technical college having completed their training objective, while 7 percent exit as dropouts--essentially abandoning their educational plan. Of the remaining 32 percent who have temporarily stopped their training, 49 percent plan to return to technical college within one year. On average, 68 percent of all exiting independent students plan to return to technical college for additional training.

Exiting Behavior of Independent Students

	Completed Educational Goal*	Stopped Out**	Dropped Out**
All Exiting Independents	**62%**	**32%**	**7%**
Full-time	71%	24%	5%
Part-time	55%	38%	8%
AFDC Recipients	63%	30%	7%
Dislocated Worker	69%	26%	5%
Previously Attained Bachelor's or Higher	60%	30%	9%

Among independent students who complete their program, 56 percent plan to return to technical college compared to 94 percent for stop outs and 55 percent for dropouts.

*Students educational goals include earning a formal award, completing a sequence of courses, and completing one course. Among independent students who planned to earn a formal award, 68 percent achieved their goal before temporarily or permanently exiting technical college.
**"Stopped out" refers to those students who temporarily stopped their education; "dropped out" refers to those students who will not complete their program as intended.

Among dependent students, approximately one-fourth will temporarily or permanently exit the system in any given term. Fifty-eight percent of exiting students leave having completed their training objective, while 12 percent drop out. Overall, nearly 65 percent of all exiting dependent students plan to return to technical college for additional training. This incidence of "repeat business" (including stop-outs who eventually resume their training as well as completers who return for subsequent training) challenges conventional thinking about post-secondary participation and enrollment and reaffirms a model of life long learning.

Exiting Behavior of Dependent Students

	Completed Educational Goal*	Stopped Out**	Dropped Out**
All Exiting Dependents	**58%**	**30%**	**12%**
Full-time	61%	27%	12%
Part-time	55%	35%	10%
Married	54%	29%	18%
Parents	51%	29%	20%
Work 20+ Hours During Academic Term	53%	34%	14%

Among dependent students who complete their program, 53 percent plan to return to technical college compared to 93 percent for stop outs and 56 percent for dropouts.

*Students educational goals include earning a formal award, completing a sequence of courses, and completing one course. Among those dependent students who planned to earn a formal award 60 percent achieved their goal before temporarily or permanently exiting technical college.

** "Stopped out" refers to those students who temporarily stopped their education, "dropped out" refers to those students who will not complete their program as intended.

Educational Goal Achievement

Regardless of social characteristics, exiting independent students achieve their goal in large numbers (62 percent) While completion rates are often systematically related to student characteristics, (for example, students who attend full-time are more likely to complete than those who attend part-time), there is a strong parity in outcomes for all technical college students.

Exiting Independent Students Who Achieve Their Educational Goals

By Educational Background

Master's/Professional or Ph D	60%
Bachelor's Degree	63%
MNTC Formal Award	75%
Other Two Year Degree/Award	53%
Some College (No Formal Award)	51%
High School Diploma/GED	58%
Less than High School Diploma	58%

By Income

$0-5,000	62%
$5,000-15,000	67%
$15,000-25,000	63%
$25,000-40,000	65%
$40,000-55,000	55%
$55,000 +	55%

By Race

White Students	62%
Students of Color	62%

By Credit Load

Full-Time	71%
Part-Time	55%

By Gender

Female	59%
Male	65%

By Reason for Leaving Primary Occupation

Left Involuntarily:	
Company Closings/Slowdowns	74%
Other Reason	60%
Left Voluntarily:	
Better Work/Attend College	76%
Personal or Family Reason	56%

More than half of the dependent students who exited the technical college system also achieved their academic goal (58%) -- again with only small differences in outcomes among different population segments. This parity in goal achievement rates is particularly significant because it reaffirms the fundamental objective of the system's open enrollment policy. Open enrollment is a viable system of education only to the extent that individuals from all backgrounds fulfill their objectives.

Exiting Dependent Students Who Achieve Their Educational Goals

By Educational Background

MNTC Formal Award	51%
Other Two Year Degree/Award	34%
Some College (No Formal Award)	94%
High School Diploma/GED	75%
Less than High School Diploma	73%

By Income

$0-15,000	61%
$15,000-30,000	59%
$30,000-45,000	53%
$45,000-60,000	61%
$60,000-90,000	60%
$90,000 +	51%

By Race

White	58%
Students of Color	60%

By Credit Load

Full-Time	61%
Part-Time	56%

By Gender

Female	61%
Male	56%

SUMMARY AND POLICY IMPLICATIONS

The findings of this student profile study suggest several broad implications for Minnesota's technical colleges and the development of state policy.

COLLEGE POLICY

Academic Affairs

AN INCREASINGLY SKILLED AND EDUCATED POPULATION WILL DRIVE INSTRUCTIONAL DEVELOPMENT

Technical college student characteristics have never resembled the characteristics of college students in other post-secondary sectors: One third of all technical college students are married, and one third also have children of their own. About half of all technical college students work at least twenty hours per week while attending school, half are first generation college students (that is, neither of their parents attended college) and nearly half of all independent students (who represent half of the technical college student population) have not received ten or more hours of instruction for at least seven years. In terms of work history, more than 70 percent of all independent students have had full-time labor force experience prior to enrollment, and over half of these students were employed in a single occupation for at least six years.

A large and growing proportion of students have worked in fields unrelated to their planned occupations and are embracing a new technical discipline to better establish their position in the labor market. In addition, students are increasingly coming to technical college having previously earned bachelor's, associate's and technical college awards and certificates. In all, about one-third of all technical college students have already earned a formal college award, and about one-fifth of all students have already earned a formal award from a Minnesota technical college.

For faculty, this diversity of student characteristics and experiences challenges conventional boundaries of curricula design and requires accommodation not only for a range of learning styles and competencies, but a range of intended applications for that training. As the demand for technical training continues to grow and student goals, needs and experiences become increasingly sophisticated, far greater demands will be placed on the depth and breadth of faculty knowledge and skills.

Program Offerings

AS THE STUDENT PROFILE MATURES, COURSE OFFERINGS AND CONCEPTIONS OF ACADEMIC SUCCESS WILL CONTINUE TO DEVELOP

The extent to which program choice varies systematically with student age, gender, and work experience suggests that technical college program offerings will continue to shift -- both in conjunction with the demands of a changing labor force and in response to an increasingly female, older, more educated, and increasingly career experienced student population.

As the student population continues to diversify by gender, age and experience, traditional patterns of enrollment will become more complex and traditional linear paths of persistence to completion to employment will become more convoluted. In this environment, conventions such as "new entering student" "fall-term snapshot," "year-to-year persistence" and "college degree" tend to confuse rather than clarify our understanding of post-secondary technical education. Other conventions, such as "goal achievement" "career path" and "life cycle position," may be more appropriate. Clearly, under an expanding demand for lifelong learning, technical education requires an information structure that departs from the traditional post-secondary model. Because technical education is occupation specific, institutions will continue to face the challenges and responsibilities to understand the skill requirements of an ever more complex labor market.

On-Campus Student Services

STUDENTS FACE NUMEROUS ACADEMIC AND NONACADEMIC CHALLENGES AND RELY HEAVILY ON CAMPUS SUPPORT SERVICES, WHICH MAKE A DIFFERENCE

Faculty and staff play a vital support role for students, in and out of the classroom. Nearly one-third of all students identified a faculty or staff member who provided support *critical* to the student completing his or her academic goals. For certain student populations -- including AFDC recipients, low income students, students of color, ESL students and physically challenged students, the importance of these supportive linkages are even more frequently cited. Overall, utilization of campus support services runs high: Seventy percent of all dependent students and 54 percent of all independent students receive some form of tutorial support such as basic math, study skills and writing skills, and one-fourth of all students report that they could not complete most or all of their assignments without help from faculty, staff or other students. More fundamentally, the provision of these services profoundly affects the likelihood of student goal achievement.

Coupled with these academic challenges, about half of all technical college students identified at least one nonacademic obstacle that repeatedly interfered with their education, to the degree that they had to repeatedly (three or more times) miss class, assignments, or otherwise hinder their education. This variety of repeated interferences among technical college students emphasizes the need for a multiplicity of academic and nonacademic support services. While the need for general advising, counseling and placement services has always been recognized and met across the state, technical colleges should expect the need for specialized services to grow. Consider for example, subsidized child care. For women in their twenties and thirties -- one of the fastest growing student segments -- nearly half have at least one child under the age of six and more than one in four rely either on a government or college sponsored facility to care for their children while attending class.

Off-Campus Student Support

OFF-CAMPUS SUPPORT MAY BE EVEN MORE CRITICAL

As important as faculty and staff support has proven to be, non-institutional support may be even more vital. Nearly three-fourths of all technical college students identified at least one individual other than a faculty or staff member who provided ongoing *critical* nonfinancial support. While this support is provided most often from parents, spouses or other family members, it also comes from friends, fellow students and employers, and in some cases (more often for lower income students) social workers and other professionals. Clearly, technical college represents one important intervention among many, and may be ideally positioned to stimulate these additional support networks. Partnering with social service agencies and stimulating the support of family and friends provides a win-win situation for the technical colleges. For example, for those students who are uncertain of their academic goals and who are less academically capable than their counterparts, support networks can more than double their chances of successfully completing a program of sequence of courses. While technical colleges are clearly at the center of the training process, these finding suggest that technical education comprises a support system that reaches beyond the schools themselves. To facilitate those relationships, however, will require a better understanding of what other organizations provide and increased flexibility in delivery systems.

Student Success and Exiting Behavior

STUDENT SUCCESS IS LINKED TO HAVING WELL DEFINED ACADEMIC PLANS

Of all students who exit the technical college system, 60 percent have achieved their academic objective, and of the many factors that contribute to a successful training experience, none is more critical than having a well defined academic objective. Students who are certain of their academic goals are nearly twice as likely to complete a program or sequence of courses than those who are uncertain of their plans. While asking students to arbitrarily design an academic objective would not satisfy this determinant of success, technical colleges may be able to increase already high student goal achievement rates by providing early interventions and helping students develop their academic goals early on in their technical college academic career.

Although a full discussion of student exiting behavior and labor force outcomes will not be available until June, 1995, several preliminary observations can made at this point. Of all students who exit the technical college system, over 66 percent plan on returning for additional education. Specifically, 55 percent of all students who completed their objective, 93 percent of all stop-outs and even 55 percent of all drop-outs plan to return to technical college. This extremely high proportion of repeat customers highlights the necessity of establishing accurate student information and tracking systems, and developing advanced mechanisms for keeping track of alumni, stop-outs, and drop-outs. It also fundamentally redefines the delivery of post-secondary training from a one-time event to a process of continuous learning.

STATE POLICY

Funding Policy

CURRENT FUNDING FORMULAS AND FINANCIAL AID POLICIES DO NOT REFLECT THE TECHNICAL COLLEGE STUDENT POPULATION

For many institutions, part-time enrollment is a necessary condition for achieving a more diverse population simply because the competing responsibilities of family and employment prohibit full-time attendance for a majority of prospective students. For Minnesota's technical colleges, approximately 35 percent of all students attend college on a part-time basis. Under existing policy, however, the state formula for institutional support potentially undermines the very access and diversification which part-time enrollment helps secure. Because Average Cost Funding (Minnesota's current institutional funding policy) appropriates funds on the basis of full-time equivalent (FTE) enrollment, institutions with significant part-time populations are only partially reimbursed for those services that do not vary with a student's credit load.

The nature of required technical college student support services contributes to this disparity because a greater proportion of institutional resources must be directed to both front-end and back-end services such as assessment and placement. To adequately and equitably support the services that are vital to student achievement requires a more sophisticated, focused approach to institutional funding than is currently in place. In turn, a more equitable formula depends critically on the availability of accurate

information concerning student characteristics and their patterns of education utilization -- a responsibility that rests principally with institutions.

Financial Aid

Under Shared Responsibility (Minnesota's financial aid policy) students who take less than a full-time load receive disproportionately less grant aid than their full-time counterparts. As a result, a part-time student seeking a formal award will pay as much as 30 percent more than a full-time student to complete an identical program. This price differential exists even though a majority of part-time students maintain the same educational objective as their full-time counterparts, but often face binding constraints on their ability to take greater course loads. Shifting policy to a straight credit-by-credit proration of full awards for part-time students would eliminate the current disparity in state aid.

The packaging and delivery of aid at technical colleges is complicated by several factors, including: A relatively short lead time from when students apply for enrollment to the first day of classes; a significant proportion of needy students who are ineligible for aid under part-time enrollment; and a growing number of students who have already completed a post-secondary program and have drawn-down their aid eligibility.

To the extent that family incomes remain relatively stagnant and attendance costs continue to rise, the provision of financial aid will become a more crucial factor for access, retention and student outcomes. To ensure that all financial aid resources are fully and effectively utilized, technical colleges need to adequately staff and fully automate their financial aid offices and stimulate ongoing communication between their financial aid and admissions offices. In addition, technical colleges may need to establish their own institutional aid programs to ensure that all needy students are adequately covered.

TECHNICAL COLLEGES ARE MEETING THEIR OBJECTIVES

Open Enrollment

Open enrollments is a viable system of education only to the extent that individuals from all backgrounds fulfill their objectives. Technical colleges appear to be meeting this standard. Regardless of social characteristics, exiting students achieve their goals in large numbers and do so without mandatory placement standards. While completion rates are often related to student characteristics (for example, full-time students are more likely to complete than part- time students), there is a strong parity in outcomes for all technical college populations.

This parity in goal achievement rates is particularly significant because it reaffirms the fundamental objective of the system's open enrollment policy, which is to serve all students regardless of academic, demographic or social background. This parity also reflects a capacity among individual colleges to respond to the distinct needs of their attending populations. At a system level, this capacity is strengthened by a policy environment that reinforces institutional flexibility, including the use of multiple assessment tools, autonomous pursuit of collaborative agreements and the development of tailored programs and services appropriate to each college's environment and circumstances. To the extent that public resources remain constrained and accountability demands intensify, colleges and universities will face external pressures to impose more selective entrance requirements and potentially succumb to standardized approaches of service delivery. Ultimately, this could contribute to, rather than reduce the polarization of classes across lines of education attainment and create a less supportive educational environment for a diverse population. Open enrollment therefore represents perhaps the most fundamental tenet of Minnesota's technical colleges, and the merits of this policy are justified both in principle and in practice.

For additional information about the Minnesota Technical College Economic Baseline Study, sponsored by the Minnesota Technical College System, please contact:

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